Rockwell International
Energy Systems Group

SUPPORTING DOCUMENT

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PROGRAM TITLE

Decontamination and Disposition of Facilities

DOCUMENT TITLE

Radiological Survey Results--Release to Unrestricted Use, SRE, Building 041

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ABSTRACT

The results of the radiological survey for Building 041, the SRE Facility, are described. All survey results are below the applicable limits, indicating that this area may be released to unrestricted use.

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FIGURES

I. INTRODUCTION

This document covers Building 041, SRE component storage, located west of the main building in the SRE complex. The building is a Butler building structure, approximately 138 ft x 28 ft.

Decontamination and disposition of Building 041 began in August 1982, and the building was available for release for unrestricted use on September 17, 1982. The only major operation performed was scabbling of the floor area.

All radioactive material was packaged for shipment to offsite land burial.

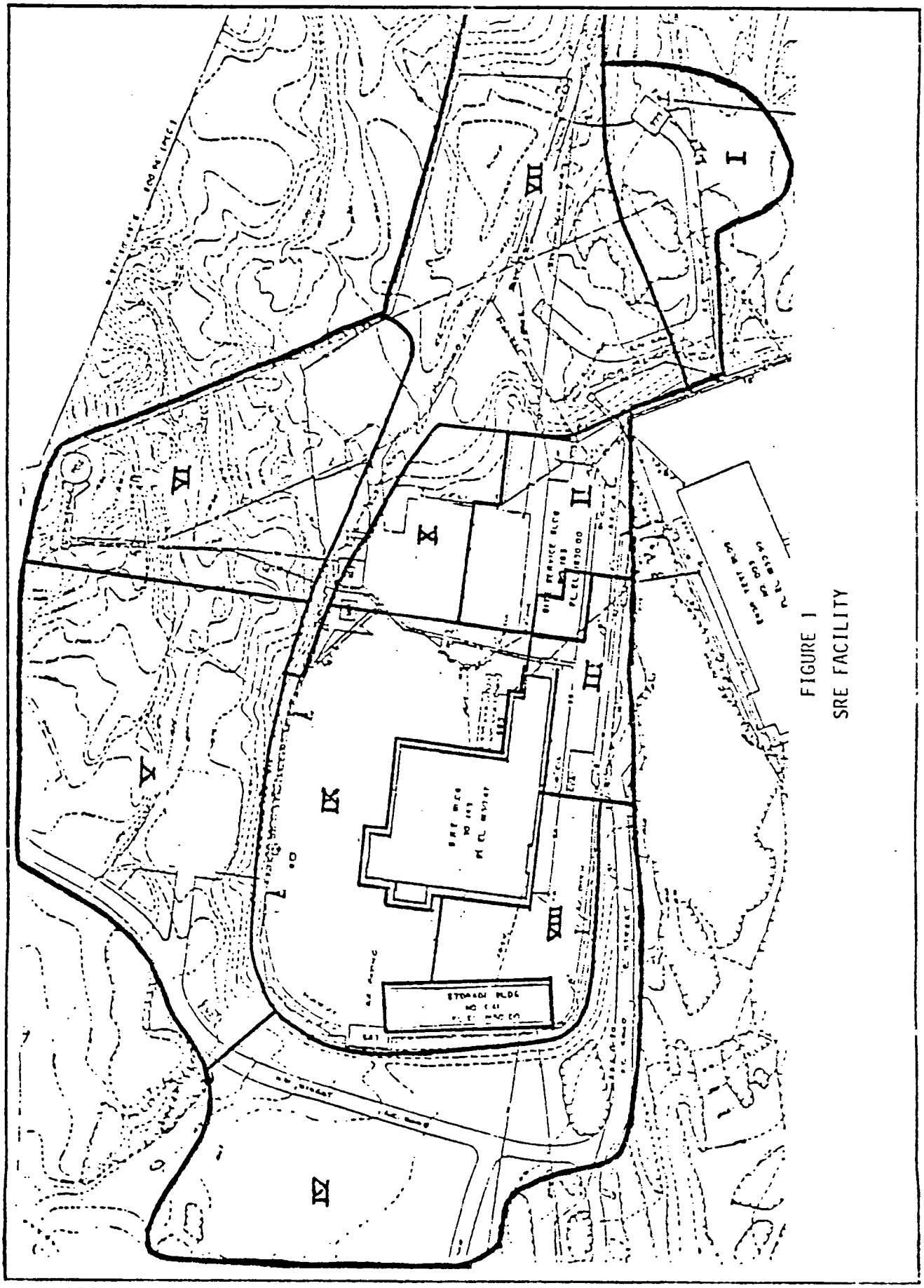
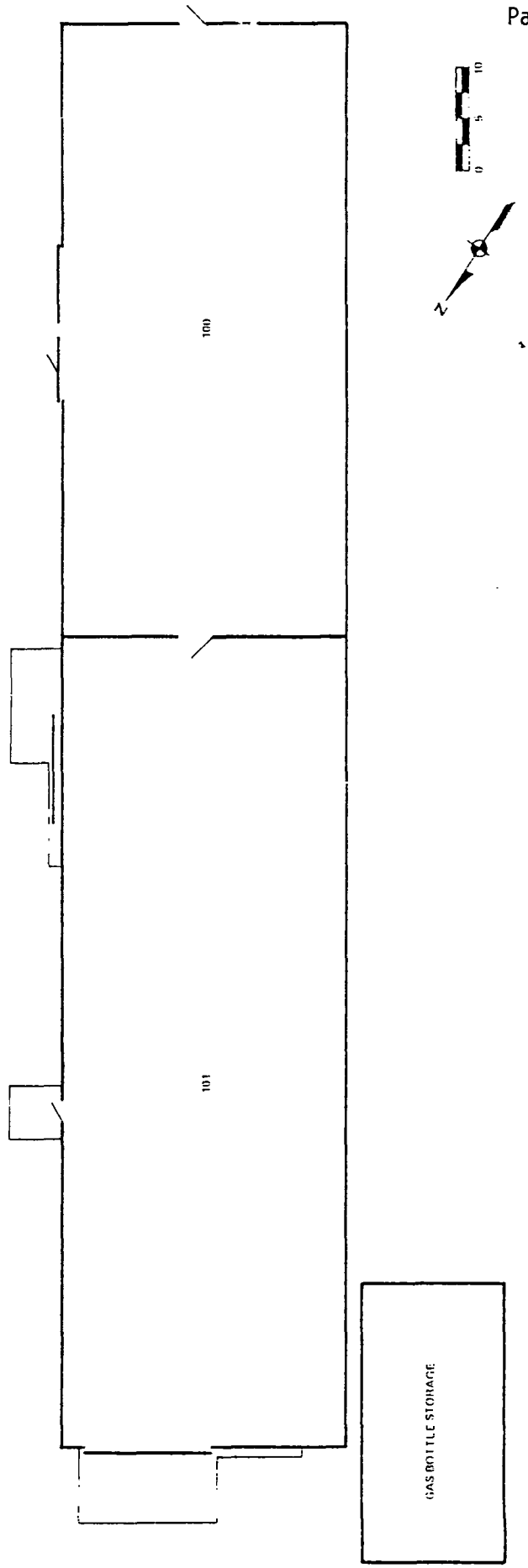


FIGURE 1
SRE FACILITY


100
101
GAS BOTTLE STORAGE
SRL COMPONENT STORAGE
BUILDING 041

II. SURVEYS AND RESULTS

A. REMOVABLE CONTAMINATION

Two hundred smears were taken on surfaces throughout the interior of the building. Results of smear surveys were documented at less than 5 dpm alpha and less than 30 dpm beta-gamma.

All smears were counted for alpha and beta-gamma on a Nuclear Measurements Corporation automatic counting system. This system is checked daily with calibrated sources for efficiency. The background for alpha is 0-1 cpm with an average efficiency factor of 3.6. Background for beta is 25-29 cpm with an average efficiency factor of 3.8. Alpha contamination was not suspected for this area. However, had any occurred, it would have been detected with this counting system.

B. SURFACE RADIATION

At the conclusion of the D&D effort, a survey was conducted using three survey instruments: a Technical Associates Model CP-7 ion chamber detector, an Eberline Model PRM-5-3 low-energy gamma detector, and a Ludlum Model 12 with a thin window pancake GM detector. The low-energy gamma detector and Ludlum GM detector were used for the faster response and audible output. An average background reading of 0.03 mrad/hr was recorded inside the middle of Building 041, which is a typical reading with this instrument in uncontaminated areas. All readings with the CP-7 were below the Table 1 limit of 0.1 mrad/hr.

C. SOIL SAMPLES

The area outside Building 041 is covered with asphalt paving; therefore, soil samples were not required.

TABLE 1

CONTAMINATION/RADIATION LIMITS

Removable Contamination
20 dpm/100 cm^2 alpha
100 dpm/100 cm^2 beta
Total Contamination (Removable Plus Fixed)
100 dpm/100 cm^2 alpha
0.1 mrad/hr at 1 cm through a 7 mg/cm^2 absorber

D. CONCRETE SAMPLES

After the concrete floor had been scabbled and surveyed with the T/A CP-7, the low-energy gamma detector and the Ludlum GM detector, it was decided concrete samples were not required.

E. WATER SAMPLES

There are no natural or manmade catch basins for water in this area; therefore, water samples were not required.

III. CONCLUSIONS

In each type of test performed, all samples indicated levels less than those limits prescribed by the decontamination and disposition of facilities program for release for unrestricted use.

All appropriate surveys indicate that current existing radioactivity in the area is below the applicable limits for release for unrestricted use.